

(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization
International Bureau(43) International Publication Date
18 January 2001 (18.01.2001)

PCT

(10) International Publication Number
WO 01/04077 A1(51) International Patent Classification⁷: **C07C 6/10**,
R01J 31/12

(21) International Application Number: PCT/GB00/02580

(22) International Filing Date: 5 July 2000 (05.07.2000)

(25) Filing Language: English

(26) Publication Language: English

(30) Priority Data:
99/09125 9 July 1999 (09.07.1999) FR(71) Applicant (for all designated States except US): **BP CHEMICALS LIMITED** [GB/GB]; Britannic House, 1 Finsbury Circus, London EC2M 7BA (GB).(71) Applicant (for FR only): **BP CHEMICALS S.N.C.** [FR/FR]; 8, rue des Gemeaux, Cergy Saint-Christophe, F-95866 Cergy-Pontoise Cedex (FR).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BASSET, Jean-Marie** [FR/FR], 18, rue J.B. Gilliard, F-69300 Caluire (FR). **COPERET, Christophe** [FR/FR], 136, avenue Thiers, F-69006 Lyon (FR). **LEFORT, Laurent** [FR/FR], 43, rue R. Leynaud, F-69001 Lyon (FR). **MAUNDERS, Barry, Martin** [GB/GB]; Woodlands, 5 Paddock Way, Woodham, Woking, Surrey GU21 5TB(GB). **MAURY, Olivier** [FR/FR], 51 Square Pedro Flores, F-35700 Rennes (FR). **SAGGIO, Guillaume** [FR/FR], 64, rue A. Charial, F-69003 Lyon (FR). **THIVOLLE-CAZAT, Jean** [FR/FR], 5, rue Gambetta, F-69270 Fontaine/Saone (FR).(74) Agent: **PREECE, Michael**; BP International Limited, Patents & Agreements, Chertsey Road, Sunbury-on-Thames, Middlesex TW16 7LN (GB).

(81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, DM, DZ, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW.

(84) Designated States (regional): ARIPO patent (GI, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG)

Published:

— With international search report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

WO 01/04077 A1

(54) Title: PROCESS FOR MANUFACTURING ALKANES WITH METHANE

(57) Abstract: The present invention relates to a process for manufacturing alkanes, comprising, as main stage, a reaction resulting from bringing methane into contact with at least one other starting alkane (A) in the presence of a catalyst based on a metal M capable of catalysing a metathesis of alkanes. The reaction results in the formation of at least one or two final alkanes (B) having a number of carbon atoms less than or equal to that of the starting alkane (A) and at least equal to 2. Preferably the catalyst comprises a hydride of a metal M grafted to and dispersed over a solid support. The metal M may be chosen from transition metals, lanthanides and actinides. The present invention also relates to the use of a catalyst capable of catalysing a metathesis of alkanes in a reaction resulting from bringing methane into contact with at least one other starting alkane (A).